

REMARKS

In the office action, the Examiner (1) rejected claims 14-21 under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 5,957,167 issued to Feygin ("Feygin"); (2) rejected claims 14-16, 20 and 21 under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,269,846 issued to Overbeck ("Overbeck"); and (3) rejected claims 14-16, 18, 20 and 21 under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,551,557 issued to Rose et al. ("Rose"). Reconsideration and allowance of the application are requested.

I. Election of Claims

Applicants affirm election of Group II claims 14-21 in response to the earlier restriction requirement issued by the Examiner. Claims 1-13 are accordingly withdrawn.

II. Rejections Based on Feygin

The Examiner rejected claims 14-21 as being anticipated by Feygin. Feygin discloses a micro-volume liquid dispenser. As shown in Fig. 6 of the reference, the dispenser includes a plurality of fluid dispensing members 300 that are actuated to accelerate downward and then abruptly decelerate on impact with fixed stop members 626 in order to dispense liquid held in the dispensing members. A single actuator is provided for accelerating all the fluid dispensing members as shown in Fig. 7 of the reference. Alternatively, each fluid dispensing member includes its own actuator as shown in Fig. 6.

Independent claim 14 of the present application is directed an apparatus for producing a compact microarray. The apparatus includes a printhead having a plurality of pins movably mounted therein. The pins are arranged in subsets of two or more pins. The apparatus also includes a plurality of pin lifting mechanisms, each associated with a different one of the subsets for lifting the pins of the subset together relative to the printhead.

Feygin does not disclose or suggest the apparatus of claim 14. Feygin does not disclose or in any way suggest pins arranged in subsets of two or more pins. Feygin's pins are not

arranged in subsets corresponding to pin actuators because Feygin only discloses that each pin has its own actuator (as shown in Fig. 6 of the reference) or that all the pins have the same actuator (as shown in Fig. 7). The reference therefore does not disclose or suggest any arrangement of pins in subsets of two or more pins.

In addition, Feygin does not disclose or suggest a plurality of pin lifting mechanisms, each associated with a different one of said subsets, for lifting the pins of the subset together relative to the printhead. It appears from the office action that the Examiner considers Feygin's actuators to be pin lifting mechanisms. Feygin's actuators, however, are not pin lifting mechanisms for "lifting the pins of the subset together relative to the printhead" as specified in claim 14. As explained above, Feygin's actuators are provided to accelerate fluid dispensing members downward in order to dispense liquid. The reference does not describe how pins are lifted relative to a printhead, much less how pins of a subset are lifted together relative to the printhead. Therefore, Feygin does not disclose or suggest a plurality of pin lifting mechanisms, each associated with a different one of said subsets for lifting the pins of the subset together relative to the printhead.

Independent claim 14 is therefore patentable over Feygin. In addition, claims 15-21 are dependent on claim 14 and are similarly allowable.

III. Rejections Based on Overbeck

Overbeck discloses an apparatus for depositing drops of fluid on a substrate using an array of pin and ring fluid depositing assemblies. The reference specifies that the pins can be moved up or down to load fluid and to deposit fluid on a substrate. Overbeck, however, does not disclose or in any way suggest that the pins are arranged in subsets of two or more pins. Overbeck also does not disclose or suggest a plurality of pin lifting mechanisms, each associated with a different one of said subsets for lifting the pins of the subset together relative to the printhead.

The rejection of independent claim 14 as being anticipated by Overbeck should be withdrawn. In addition, claims 15-21 are dependent on claim 14 and are similarly allowable over this reference.

IV. Rejections Based on Rose

Rose discloses a random access printhead having a plurality of pins for transferring microfluidic quantities of fluid. Fig. 3 of the reference shows a plurality of pins in the printhead, with each pin having a solenoid 238 that can be energized to raise only that pin. There is no disclosure or any suggestion that Rose's pins are arranged in subsets of two or more pins. In addition, Rose does not disclose or suggest a plurality of pin lifting mechanisms, each associated with a different one of said subsets for lifting the pins of the subset together relative to the printhead. As discussed above, Rose discloses that each pin in the printhead has an associated solenoid for moving only that pin to provide random access operation of its pins.

Independent claim 14 is therefore patentable over Rose. In addition, claims 15-21 are dependent on claim 14 and are similarly allowable.

V. Conclusion

Claims 14-21 are pending in the present application. As each claim is allowable over the cited references, issuance of a Notice of Allowance is respectfully requested.

Application Serial No. 10/715,653
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Reply to October 5, 2005 Office Action

The Commissioner is hereby authorized to charge any fee deficiency associated with this submission, or credit any overpayment to Deposit Account No. 08-0219.

Respectfully submitted,



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